Practice: 610 - Salinity and Sodic Soil Management

Scenario: #1 - Soil Management - Drainage

Scenario Description:

This scenario is for deep tillage operations planned to lower excessive salt concentrations (high salinity levels) in the soil and are associated with the construction of surface drainage ditches.

Before Situation:

Salt concentrations within the soil profile of a 40 acre corn field have been tested to contain an EC >4mmho/cm, SAR <13 and ESP <15% which has resulted reduced stand density, poor plant health and vigor and an overall reduction in crop yield.

After Situation:

Salt concentrations in the soil profile have been reduced by deep tillage that improves internal drainage in the soil profile; tillage is coupled with the removal of surface water through the installation of drainage ditches. The removal of excessive water has lowered the salt concentration within the soil profile which has resulted in improved seedling/plant density, plant health and vigor and an overall increase in crop yields.

Scenario Feature Measure: Acres included in Salinity Management Plan

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: $719.97 **Scenario Cost/Unit:** $18.00

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Tillage, Primary	946	Includes heavy disking (offset) or chisel plow. Includes equipment, power unit and labor costs.	Acre	$13.37	40	$534.80
Materials						
Testing, soil sampling and EC analysis, bore hole	2055	Collecting and testing 5 soil samples per 60" bore hole. Inclueds EC measurements. Includes equipment and labor.	Hour	$185.17	1	$185.17

Practice: 610 - Salinity and Sodic Soil Management

Scenario: #2 - Sodic Soil Treatment

Scenario Description:

This scenario is to be used to assist in reclaiming alkaline (sodic) areas of a field by applying gypsum. Gypsum is applied to replace the sodium in the soil and allow it to leach through the soil profile. The soils are to be identified using designated procedures in the NRCS Salinity and Sodic Soil Management (610) standard.

Before Situation:

A 40 acre corn field with a medium soil texture was tested to have an Exchangeable Sodium reading of 20. The sodic characteristic of the soil has resulted in reduced plant health and vigor which is leading to reduced corn yields.

After Situation:

A gypsum application has lowered the Exchangeable Sodium level within the soil profile so that the plant health and vigor has improved, which results in increased corn yields.

Scenario Feature Measure: Acres included in Sodic Soil Management Plan

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: $7,382.37 **Scenario Cost/Unit:** $184.56

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Lime application	953	Lime application performed by ground equipment. Includes equipment, power unit and labor costs.	Acre	$8.18	40	$327.20
Materials						
Testing, soil sampling and EC analysis, bore hole	2055	Collecting and testing 5 soil samples per 60" bore hole. Inclueds EC measurements. Includes equipment and labor.	Hour	$185.17	1	$185.17
Gypsum, Ground Ag Grade, Bulk	1224	Agricultural grade quarry ground gypsum (CaCO4) for dispersive soil treatment. Materials and delivery only.	Ton	$34.35	200	$6,870.00